

REMARKS

Reconsideration and withdrawal of the rejections of the claimed invention is respectfully requested in view of the amendments, remarks and enclosures herewith, which place the application in condition for allowance.

I. STATUS OF CLAIMS AND FORMAL MATTERS

Claims 1-6, 15 and 18-21 are pending in this application. No new matter has been added by this amendment.

It is submitted that the claims, herewith and as originally presented, are patentably distinct over the prior art cited in the Office Action, and that these claims were in full compliance with the requirements of 35 U.S.C. § 112.

II. THE OBJECTIONS TO THE SPECIFICATION HAS BEEN OVERCOME

The objections to claims 1-6, 15 and 18-21 have been overcome in light of the following amendments and/or arguments.

Although MPEP 608.04(c) states in part that review of the Examiner's request for cancellation of new matter in a specification is normally done by petition, for the sake of compact prosecution, the applicants request reconsideration of this objection in light of the declaration by Dr. LEE, Sang-koo which includes a statement that the correct number for the amount of dimethyl ether in Example 1 is 1.5 kg and this error occurred without any deceptive intent.

There was obviously a discrepancy for the amount of diluent gas dimethyl ether between the description of Example 1 (2 kg) and the data provided for Example 1 in Table 1 (1.5 kg); the applicants were attempting to expedite prosecution by addressing this overlooked typo as this issue would ultimately had to have been addressed at some point in the future whether via an Examiner's objection, during a quality review of the file between the Notice of Allowance and the grant of the patent or by the applicants or 3rd party after the patent had granted.

III. THE 35 U.S.C. 112, 1st PARAGRAPH REJECTION HAS BEEN OVERCOME

Claims 1-6, 15, 15 and 19-20 were rejected as allegedly lacking adequate written description for introducing new matter. The applicants request reconsideration of this rejection for the following reasons.

The argument presented in the Office Action was that the use of the transitional phrase “consists of” introduced new matter with regard to the process steps. While the applicants respectively disagree with this argument, in order to advance prosecution, the applicants have added the a step of feeding water and stirring to the claim.

With respect to the distribution (sieving) step, this is not a necessary step for the method of the claimed invention, i.e. the sieving step is merely a means of confirming the particle size of the powdered fibrous cellulose ethers; it is not a cause of creating the particle size of the powdered fibrous cellulose ethers.

IV. THE 35 U.S.C. 112, 2nd PARAGRAPH REJECTION HAS BEEN OVERCOME

Claims 1-6, 15, 16 and 18-20 were rejected as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regards as the invention. The applicants request reconsideration in light of the amendment to claim 1 above.

V. THE 35 U.S.C. 103(a) REJECTION HAS BEEN OVERCOME

Claims 1-6, 15, 16 and 18-21 were rejected as allegedly being obvious by Ondo et al. (U.S. Patent 4,091,205 – "Ondo") and Haidasch, et al. (U.S. Patent 3,251,825 – "Haidasch") in view of Richter (U.S. Patent 2,090,808 – "Richter"), Dannhorn, et al. (U.S. Patent 2002/0038018 – "Dannhorn") and Anderson, et al. (U.S. Patent 2,647,064 – "Anderson"). The applicants request reconsideration of this rejection for the following reasons.

The difference between the claimed invention and the invention represented by the combination of Ondo, Haidasch, Richter, Dannhorn and Anderson is that the latter does not teach or suggest obtaining powdered fibrous cellulose ethers of particle size distribution rate of greater than 99% for the particles of less than 100 mesh in size in the absence of a final milling/grinding step.

The Office Action states on page 9 that “the skilled artisan could envision carrying out Onda’s process wherein pulverized cellulose of the desired particle size is used as the starting material instead of grinding the product at the end of the process, and would expect to achieve products of the desired particle size.”

However, this is not true.

Rearranging the process steps as suggested in the Office Action would not be a routine modification to one of ordinary skill in the art for this technology. Moreover, the applicants did show surprising results which occurred because of the elements stated in their claimed process.

As noted in the declaration by Dr. LEE, Sang-koo, the reason the milling/grinding process is normally saved for last is that regardless of the size of the starting material, cellulose manufacturing processes suffer from the problem of flocculation/agglomeration (“clumping”) of either an intermediate or final product which results in particle sizes far in excess of 100 mesh. Rather than constantly grind the product after each step, it is simply easier to wait until the end of the process to grind the product to the necessary process step. However, the grinding process itself is costly both in terms of time and energy resources and is also prone to clumping itself. The surprising effect of the applicants’ invention is that the applicants were able to start with a small particle size and maintain it during the course of the process without suffering from clumping. This is a significant achievement as it eliminates the post processing grinding step.

With regard to the analysis of the evidence of unexpected results, a few points need to be clarified.

Page 11 of the Office Actions states that “[a]ccording to Table 1, reaction using no diluent gas produced the same results as reaction using **1.5 or 2 parts** by weight of diluent gas. The examples in the specification used 6 kg of cellulose, so the reaction included **0-12 kg** of diluent gas, with no difference in the outcome of the reaction. The difference between 0 and 12 kg is significant, and the skilled artisan would expect some difference in the particle distribution rates if the amount of diluent gas was critical for particle size.”

First, the applicants note that the results referred to are for 1.5 or 2 kg, not parts. Second, it is unclear where the range 0-12 kg came from as this was not cited in the specification. Third, there appears to be a misunderstanding about the effect of the diluent gas in the claimed process.

The state of the art is such that the use of diluent gas is to prevent clumping, i.e. the more diluent gas, the expectation of smaller particle size. Surprisingly, what the applicants have shown is that 0 to 0.25 parts by weight of diluent gas for 1 part by weight of cellulose can result in less clumping which is the opposite of what would have been expected by one of ordinary skill in the art (the comparative example in Table 1 uses more diluent gas than the inventive examples, but results in larger particle sizes) – see also the data presented in Dr. LEE, Sang-koo’s declaration.

Therefore, what the applicants have shown is that by following the process steps, one can achieve the smaller particle sizes (99% less than 100 mesh) and also reduce (even eliminate) the amount of diluent gas that would be necessary to achieve the smaller particle sizes. As the combination of Ondo, Haidasch, Richter, Dannhorn and Anderson do not teach the claimed particle sizes in the absence of a milling/grinding step nor does it teach that less rather than more diluent gas can be used to achieve the claimed sizes, the applicants' claimed process is unobvious over these combination of references.

CONCLUSION

In view of the remarks and amendments herewith, the application is believed to be in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are earnestly solicited. The undersigned looks forward to hearing favorably from the Examiner at an early date, and, the Examiner is invited to telephonically contact the undersigned to advance prosecution. The Commission is authorized to charge any fee occasioned by this paper, or credit any overpayment of such fees, to Deposit Account No. 50-0320.

Respectfully submitted,
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